



PATENT SPECIFICATION

DRAWINGS ATTACHED

Inventor: ALAN KEITH BROWN*Date of filing Complete Specification:* 17 Oct., 1966.*Application Date:* 18 Oct., 1965.

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COMPLETE SPECIFICATION

Improvements relating to Wash Tubs

We, ASSOCIATED ELECTRICAL INDUSTRIES LIMITED, a British Company having its registered office at 33 Grosvenor Place, London, S.W.1., do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to wash tubs of the kind comprising a base, an upstanding side wall around said base, a portion of circular plan projecting outwardly from said base to form a depression therein and an opening centrally of the portion of the base forming said depression, which tub is adapted to be supported at the free end of the side wall and adjacent the opening in a washing machine with the longitudinal axis of the tub vertical and with said depression being of such diameter as to be substantially, but not entirely, closed by the base of a gyrator mounted in the tub on a support stem extending through said opening. Such wash tubs are hereinafter referred to as wash tubs of the kind set forth.

The depression in the base of the wash tub together with the base of the gyrator provides a substantially enclosed cavity in which insoluble and relatively heavy particles extracted from articles washed in the tub can accumulate. The cavity may also be used to house a sheathed wire electric heating element and a thermostat therefor. There is necessarily an annular gap between the periphery of the base of the gyrator and the wall of the depression and this gap must be sufficiently wide to allow for possible eccentric movement of the gyrator but not wide enough for clothes and other articles in the wash tub to become trapped between the edge of the gyrator and the wall of the tub.

According to the present invention a wash tub of the kind set forth is of plastics material and has a plurality of strengthening ribs integral with and projecting from the outer surface of the portion of the base forming said depression.

Wash tubs of plastics material are particularly advantageous since the tub can easily and cheaply be moulded but plastics material has a relatively high co-efficient of thermal expansion and with the change in temperature which can occur in a washing machine considerable distortion of the wash tub can result. The wash tub is supported around the free end of the side wall and adjacent the opening in the base and any distortion of the wash tub would cause the gap between the edge of the depression and the periphery of the base of the gyrator to increase considerably unless some means are provided for preventing distortion of at least the portion of the base which defines the depression. The provision of the strengthening ribs on this portion of the base strengthens the portion and any distortion occurs in the part of the base between the strengthened portion and the side wall, and the width of the gap is not affected to any great extent.

The strengthening ribs are conveniently arranged radially about the opening in the base of the wash tub and if required at least one strengthening rib concentric with the opening may be provided. Furthermore the thickness of the plastics material at the base of the tub may be made greater than over the rest of the tub; this ensures that when the tub expands due to a change in temperature it is the thinner walled parts of the tub which distort leaving the strengthened base portion relatively unchanged.

In order that the invention may be more readily understood it will now be described by way of example with reference to the accompanying drawing in which:

Fig. 1 is a sectional side elevation on the line XX¹ of Fig. 2 of part of a washing machine provided with a wash tub in accordance with one embodiment of the invention.

Fig. 2 is a plan view from beneath the wash tub shown in Fig. 1.

A wash tub 1 for an electric washing machine is formed from a plastics material conveniently polypropylene and comprises a base

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2 having a portion 3 of circular plan depressed outwardly from the base and an upstanding side wall 4 around the base. An opening 5 is located centrally of the depression and an outwardly turned annular collar 6 extends around the periphery of the opening.

The opening 5 serves to receive a stem (not shown) upon which a gyrator, also of plastics material and shown in part at 7, is mounted. The collar 6 is clamped in sealing relation to a stationary sleeve surrounding the stem to close the opening 5 and the depression in the base of the tub is almost, but not completely, closed by the base of the gyrator 7 and together they provide a cavity in which a heating element (not shown) may be located. In addition to being clamped to a stationary part surrounding the stem the wash tub is rigidly secured around the free end of the upstanding wall 4 to the outer cabinet of the washing machine of which it forms part.

To ensure that the gyrator is free to turn relative to the wash tub and that particles of insoluble material can be deposited in the cavity, it is essential that a gap 8 is present at all times between the periphery of the base of the gyrator and the adjacent wall of the depression in the base of the wash tub. However, it is equally essential that the gap 8 does not widen sufficiently to allow articles being washed in the tub to become trapped beneath the gyrator. Since the wash tub is supported only at the free end of the wall 4 and around the opening 5 any expansion of the tub due to an increase in temperature thereof would tend to distort the base of the tub downwardly and outwardly thus increasing the width of the gap 8 unless steps were taken to prevent such an occurrence. To overcome this disadvantage strengthening ribs are provided on the external surface of the portion of the base of the tub which defines the depression. A plurality of ribs 9 integral with the base of the tub, extend in uniformly spaced relation radially from the opening 5 and the ribs are terminated at their outer end by an annular rib 10 which is concentric with the collar 6. Further, ribs concentric with the collar 6 may be provided if required. The ribs strengthen the portion of the base of the tub which defines the depression and prevent this part of the tub from distorting downwardly to any appreciable extent when the walls of the tub expand. Any slight amount

of distortion which may occur tending to increase the width of the gap 8 is compensated for by the radial increase in the dimensions of the base of the gyrator.

The thickness of the side wall and the unribbed part of the base may be slightly less than that of the part of the wall defining the depression so that the side wall of the unribbed portion of the base flex and distort to a greater extent than the more rigid part which defines the depression.

A further opening 11 (Fig. 2) is located through the wall of the tub at the lowest part of the depression to permit wash liquid to be removed from the tub. Openings 12 are also provided for the wash tub when a heating element is fitted to permit the end connections of the element and the limb of a thermostat to pass therethrough to the exterior of the tub.

WHAT WE CLAIM IS:—

1. A wash tub of the kind set forth which is formed of plastics material and has a plurality of strengthening ribs integral with and projecting from the outer surface of the portion of the base forming said depression.

2. A wash tub as claimed in Claim 1, in which said ribs extend radially of the opening at the centre of the portion of the base forming said depression.

3. A wash tub as claimed in Claim 1, in which said ribs are concentric with the opening at the centre of the portion of the base forming said depression.

4. A wash tub as claimed in Claim 1, in which some of the ribs extend radially of the opening at the centre of the portion of the base forming said depression and at least one rib is concentric with said opening.

5. A wash tub as claimed in any preceding claim, in which the thickness of the portion of the base which forms the depression is greater than that of the remaining part of the base and the side wall of the tub.

6. A wash tub substantially as hereinbefore described with reference to the accompanying drawing.

7. An electric washing machine including a wash tub as claimed in any preceding claim.

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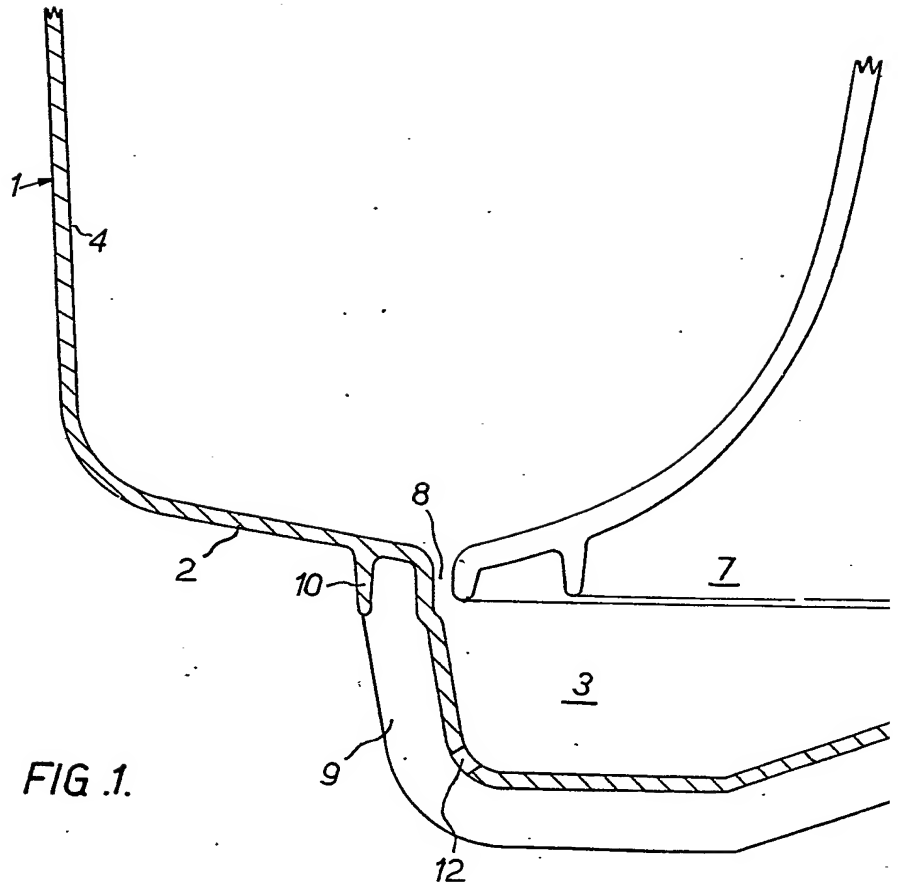


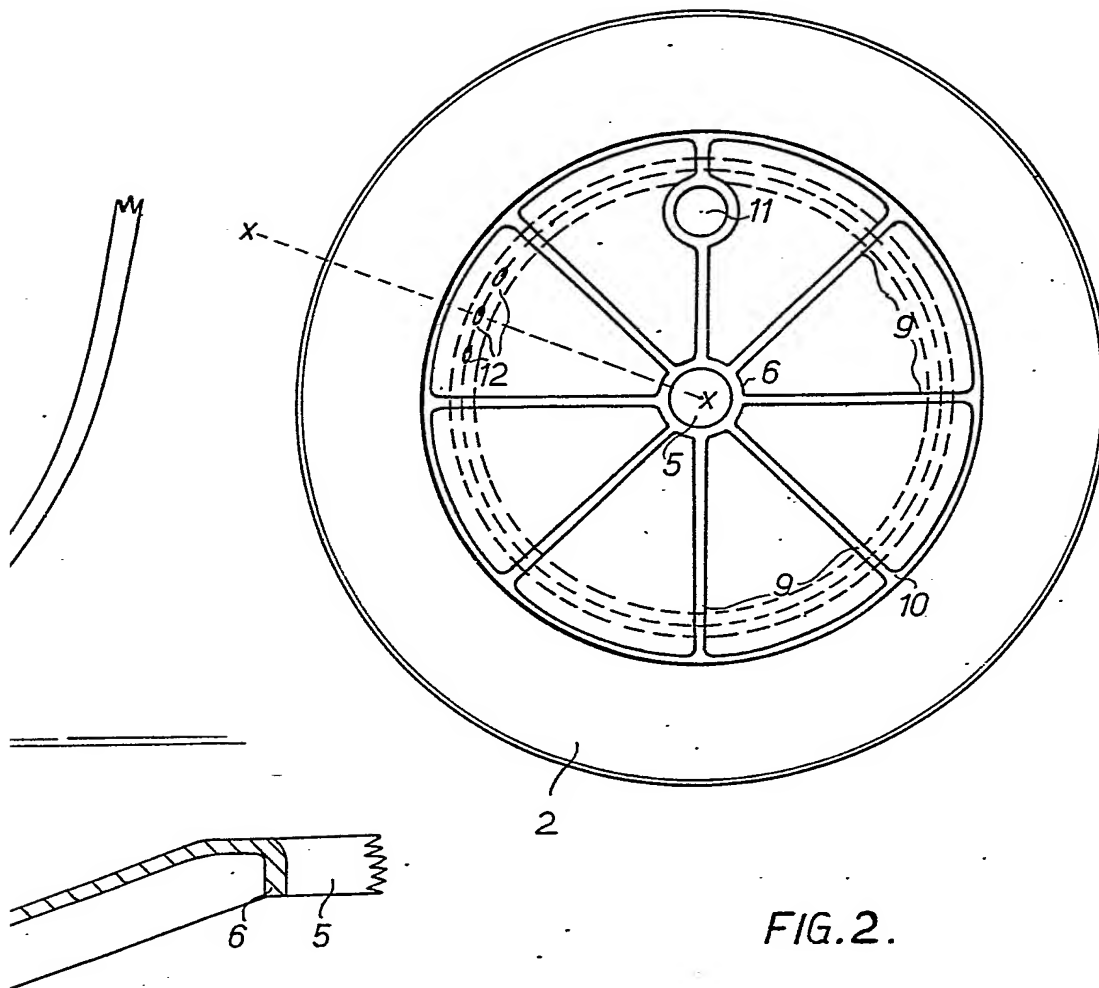
FIG. 1.

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COMPLETE SPECIFICATION

1 SHEET

*This drawing is a reproduction of
the Original on a reduced scale*



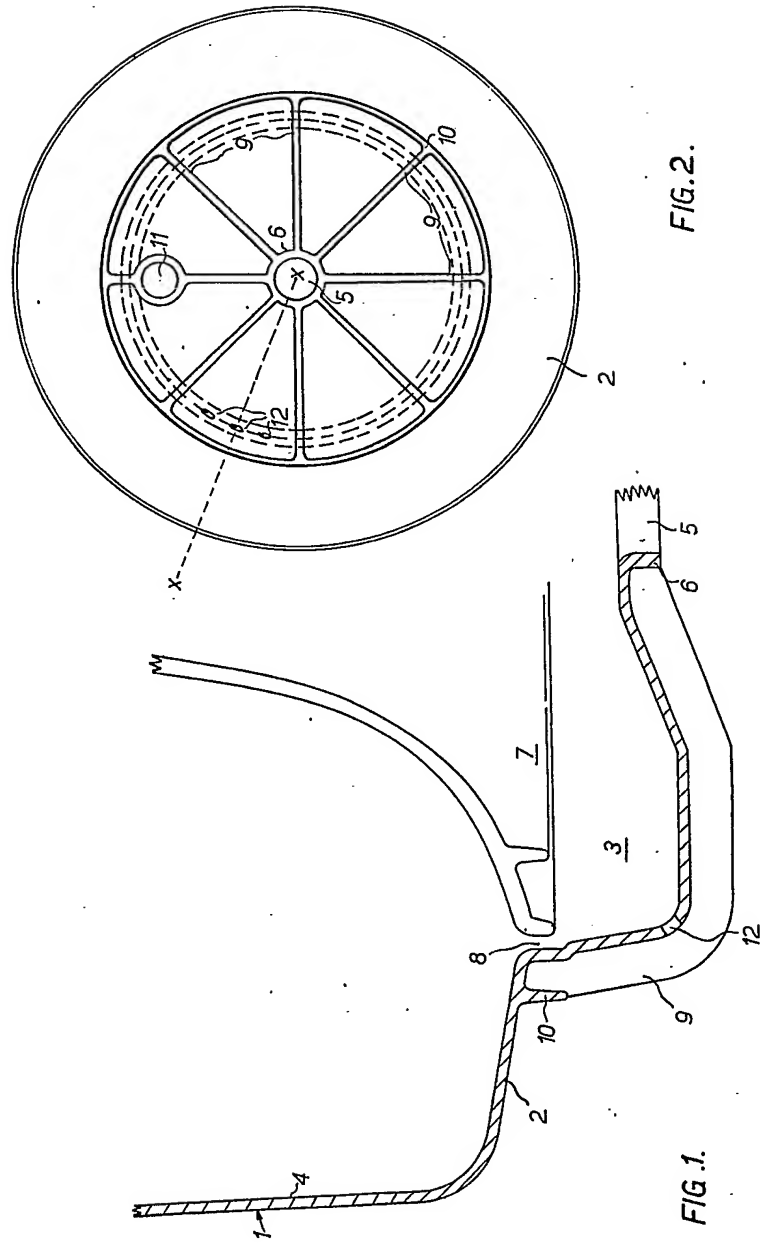


FIG. 2.

FIG. 1.

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DERWENT-WEEK: 196800

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TITLE: Plastic wash tub for washing machines

PATENT-ASSIGNEE: ASEI[ENGE]

PATENT-FAMILY:

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INT-CL-CURRENT:

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CIPS	D06F13/00 20060101

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BASIC-ABSTRACT:

A wash tub formed of plastics material has a plurality of strengthening ribs integral with ad projecting from the outer surface of the portion of the base forming the depression.

The ribs extend radially of the opening at the centre of the portion of the base forming the depression.

In electric washing machines.

TITLE-TERMS: PLASTIC WASHING TUB MACHINE

DERWENT-CLASS: A00

CPI-CODES: A12-D04;

POLYMER-MULTIPUNCH-CODES-AND-KEY-SERIALS:

Multipunch Codes: 041 046 050 476 641 688 720